people to come into farming, many of them in a small way. It is not a major income. So the numbers of farmers do not trail off as rapidly as they did at the turn of the century, 100 years ago, or all the way through the 1930s. Nevertheless, the concentration into about 170,000 large farms in this country is pronounced. These farms are doing the majority of the business, and about 600,000 farms in America plus or minus a few do about four-fifths of all we do.

Trying to fashion a farm policy, therefore, that fits these situations, these diverse situations, is virtually impossible. At the same time, we have tried—all of us have tried. The bottom line has been we have succeeded in good part, but the debate continues because farms that do not make very much on invested capital are in trouble every year.

I do not know the answer to that question. My guess is, in part, it is being answered by age. The average age of people who are farming increases. The people who come to the distinguished occupant of the chair and to me, who have, say, a 30-, 40-, 50-herd dairy situation, say: What are we going to do? I am 65, one farmer will say. I would like to retire. I would like to get a pension or my money out of this. The son who is about 40, it is very doubtful whether he wants to continue, whether there is enough for a livelihood at a middle-class level in our society, and they come to us and ask for counsel as to what to do. There is no good answer. It finally has to be a gut feeling on the part of that farmer.

The farm bill on which we are about to embark, if we adopt the bill passed by the Senate Agriculture Committee, in my judgment, makes the situation substantially worse. I do not paint this in disastrous hues. My own judgment is, regardless of what we do, this will not be an irrevocable disaster for the country, but I think some people will get hurt. Among those who will get hurt are probably the small, simply because most of the payments will go to the large. The payments will be much larger than they were before, so the large will be even more consolidated and confirmed in their situations. Land values will continue to increase, maybe not to a bubble situation but clearly rising on the basis of not much behind them.

The return on capital is still pretty sketchy. If one were to take a look at this, such as the people at the stock market, it would be seen as a pretty precarious kind of investment, and based largely upon the general mood of the public as a whole. Since this prosperity would not have been based on the market necessarily but really on the basis of our political debate and public policy, that which is given can be taken away.

I have no idea what the mood of the Congress will be 2 or 3 years from now, if in fact we have sustained deficits for 3 years as the Director of OMB has prophesied we will. There is no farm program that is engraved forever. We can pass a bill that has 5 years' duration or 10, but each Congress can amend that very substantially and change it materially and must have the right to do so on the basis of whatever the crisis the country faces or its priorities then.

That is why I fear the idea of 5 or 10 years of very large fixed payments to 40 percent of farmers who are in the program as opposed to 60 percent who are not, based on nothing more than the fact that one has been a farmer in the past, whether they are farming now or not. It has some problems to it. They are not being glossed over. I think Senators must understand what they are doing.

Having heard a lot of criticism about fixed payments in the past, these so-called AMTA payments, I am astonished so many Senators are fully prepared to do more of it now really without any limitation. The bill I presented does have limitations. The 6 percent credit that one receives on the basis of all the total whole farm income is finally limited to only $30,000 a farmer. The Senate Agriculture bill we are now considering could pay as much as $500,000 to a single farm entity. In fairness to my chairman, Senator HARKIN, who has long believed there were problems in having such distortions, he readily admits in order to obtain a majority support in the committee, he acquiesced to those who wanted more. For all I know, those limits are still being raised, even as we speak, to accommodate the situations of particular crops.

This does not bode very well for the small family farm situation, or the saving of everyone, or the general ethic of the bill that is often presented that way, or even those particular cases of distress in the midst of the overall increasing prosperity I described in the overall report.

These are concerns that have led me and others to suggest alternatives. In the event the debate proceeds, we will have that opportunity. I utilize this time of deliberate and thoughtful debate on the farm bill to bring forward some of these facts and some of this information.

Mr. President, I yield the floor.

The PRESIDING OFFICER. The Senator from New Mexico.

Mr. BINGAMAN. Mr. President, I ask unanimous consent that I be allowed to use up to the hour of time postcloture that I am entitled to and that I be allowed to speak as in morning business.

The PRESIDING OFFICER. Without objection, it is so ordered.

ENERGY POLICY ACT OF 2002

Mr. BINGAMAN. Mr. President, today I joined Senator DASCHLE in introducing the Energy Policy Act of 2002. This bill is a culmination of a great deal of work involving several committees in the Senate. In the Committee on Energy and Natural Resources alone, we had over 50 hearings in the 106th and 107th Congresses that relate to this bill.

The staff of the committee, particularly the majority staff, who have worked on drafting the legislation we introduced today, did yeoman's work. I will mention the individuals who worked so hard on this: Of course, Bob Simon, who is our staff director. This list is in no particular order except perhaps alphabetical, although I am not sure that is exactly right. Patty Beneke worked hard on various provisions; Jonathan Black; Shelley Brown helped us with the bill; Mike Connor; Deborah Estes; Sam Fowler, who was the principal draftsman on the bill; Jennifer Michael; Leon Lowery; Shirley Neff made tremendous contributions. Malini Sekhar, Vicki Thorne, John Watts, Bill Wicker, and Mary Katherine Ishee also made great contributions.

So I want to publicly state my appreciation to them for the good work they did.

Although the bill that we introduced today is the culmination of a great deal of work, it is also in many ways just a beginning. It is a starting point for the next phase of the Senate's consideration of energy policy. Senator DASCHLE has indicated he desires for us to bring it up and debate this legislation and the entire subject area during the first period of the next session.

One obvious question is why we invested so much time on this topic of energy in developing this bill. There are two basic answers to that question. First, energy is central to our present and future economic prosperity. Any of us who lived in the last few decades of this country know we depend upon foreign sources for much of our energy. Our economy is vitally dependent upon reasonable prices for energy.

Second, there has been significant changes in energy markets since the last time Congress considered comprehensive energy legislation. The last major energy bill we passed was the Energy Policy Act of 1992. Since that time, as a nation we have moved further away from command and control regulation of energy toward a system that relies much more on market forces to set the price of energy. In the process, our energy markets have become more competitive, more dynamic, and there have been some significant bumps in the road which we have all observed.

Consumers are now more vulnerable to the vagaries of energy markets and the volatile prices for energy. The structures to regulate these emerging market forces are not fully developed, as we could see very clearly in the last few weeks with regard to the circumstances of Enron Corporation.

Gasoline supplies nationwide have become increasingly subject to local crises and to price spikes due to the proliferation of inflexible local fuel specifications and tight capacity in refining and in pipelines.

Of course, the events of September 11 have caused many of us to reflect on the inherent vulnerabilities of our energy transmission system. The time

may be right for us to rethink how we site energy infrastructure, the balance between central and distributed generation of power in our electricity system.

So Congress needs to respond to these changes and challenges and opportunities. If we do so in a balanced and comprehensive and forward-looking way, then we can develop an energy policy that will lead to a new economic prosperity for the country and for the world. But we will not get there simply by perpetuating the energy policy approaches of the past. New ideas and approaches are needed as well as greater investment to move into the future.

That is what this bill we have introduced today tries to do. The bill has three overarching goals. This chart specifies what those are.

First, we try to ensure adequate and affordable supplies of energy from a variety of sources—from renewable sources as well as from oil and gas and coal and nuclear. I emphasize renewables because, as I will indicate in a few moments, that is an area to which we have given too little attention.

Second, the bill improves the efficiency and productivity of our energy use, including energy reliability and the productivity of our electric transmission system and energy use in industry, in vehicles and appliances, and in buildings.

The third overarching goal of this legislation is to keep other important policy goals in addition to our energy policies, goals such as protection of the environment and global-climate-change-related issues—keep those goals in mind as we sort through our energy policy choices.

I think we can achieve these three goals if we accelerate the introduction of new technologies and if we create flexible market conditions that empower energy consumers so they can make choices that will benefit both them and our society more generally.

This combination of new technology and policy innovation in pursuit of a diverse and robust national energy system can be seen in the provisions of this bill as they relate to the first major goal. This is obtaining an adequate and affordable supply of energy. So let me start the discussion by speaking first about this important subject of renewable energy that I referred to a minute ago.

Our Senate bill contains numerous provisions enhancing the contribution of renewable forms of energy to our future energy mix. Under the ''business as usual'' approach of the House energy bill, H.R. 4, which has been proposed at various times on the Senate floor, the contribution to our energy mix from renewables will not substantially increase over the next 20 years. The result will be an energy system, particularly for the production of electricity, that will go from being about 68 percent based on coal and natural gas to being about 80 percent based on those two fuels. That overdependence would leave our country very vulnerable to shortfalls in the delivery of either of those commodities. Consumers would be exposed to severe risks of price spikes.

We clearly need more diversity in the ways that we produce electricity in this country, not less diversity. Our overdependence does not make sense in light of the commitments to renewable energy that have been made in other countries, particularly in Europe. This chart demonstrates that very graphically. This chart is entitled ''Commitment to Renewable Generation.'' This is generation of electricity. The percentage increase in nonhydro renewable generation during the 5 years 1990–1995—a 6-year period, I guess—here you can see the percentage increase. In the case of Spain, it was a little over 300 percent. In the case of Germany, it was something over 150 percent—175 percent. In the case of Denmark, it was nearly 150 percent. Then it goes on down until you get to the United States, which is way down in the single digits.

There are countries that did less during that 5- or 6-year period than we did but not many. Even France, which is often held up as a model for its commitment to nuclear power, has outpaced the United States in recent years in its investment in renewable sources of electricity other than nuclear power. The United States needs to lead the world in renewable technologies.

We have abundant domestic renewable resources. The world market for such technologies is capable of strong growth in the future. Renewable technology leadership would help U.S. firms achieve a strong position in winning those markets and thus creating new jobs in our own country.

If our country is to lead the world in renewable energy technologies, we need to do a better job of getting those technologies into the marketplace in this country.

Our bill that we have introduced today would boost future use of renewables in five major ways. Let me summarize those five ways.

First, the bill contains market incentives that would triple the amount of electricity produced from renewable energy over the next 20 years. Here is another chart that tries to show graphically where we are today, slightly after the year 2000, at less than 5 quadrillion Btus annually. This green wedge shows what we would anticipate as the growth in the production or generation of electricity from renewable sources between now and the year 2020 under this legislation that we have introduced.

These incentives include a renewable portfolio standard that creates a market for new renewable sources of electricity, whether they are wind or solar or biomass or incremental hydroelectric generation from existing dams.

A second market incentive is the Federal purchase requirement for renewables that would grow to 7.5 percent of all Federal electricity purchases by the year 2010. The renewable energy production incentive, which is an existing program to help rural electric co-ops and municipal utilities generate renewable energy, is also reauthorized in this bill and extended to include Indian lands which contain some prime renewable resources. So that is the first way in which this bill would make an effort to boost our future use of renewables.

The second is that the bill being introduced today greatly expands the contribution of renewable fuels such as ethanol and biodiesel-powered vehicles and transportation. By 2005, 75 percent of the Federal Government's vehicles that can burn alternative fuels would be required to do so, creating more market certainty for renewable fuels and their associated infrastructure.

By 2012, 5 billion gallons a year of renewable fuels would be blended into our gasoline, decreasing our import dependence on foreign oil.

The third way in which the bill helps renewables contribute more to our energy mix is by removing existing regulatory barriers that affect renewable energy. For example, wind and solar power can be effectively tapped by small distributed generation systems, but current practices and rules in the marketplace often discriminate against distributed generation. Our bill tries to deal with this problem by requiring electric utilities to offer their customers net metering, in which a customer can offset his electric bill by the amount of electricity that he generates and sells to that local utility.

The bill also requires fair transmission rules for intermittent generation such as wind and solar.

Finally, the bill mandates easier interconnection for distributed energy production into the interstate transmission grid and requires States to examine ways to facilitate that interconnection of distributed energy into local electric distribution systems as well.

A fourth major way in which our bill promotes renewables is by disseminating information about and facilitating access to areas of high resource potential, particularly on our public lands. There are many places in this Nation and my State that have untapped renewable energy potential. The bill creates a pilot program at the Department of Energy and in the Forest Service for development of wind and solar energy projects on Federal lands.

A fifth and final area in which the bill helps make renewable energy a bigger part of our energy picture in the future is through enhanced research and development programs. These research and development programs in our bill at the Department of Energy will grow from an authorized level of $500 million in fiscal year 2003 to $733 million by fiscal year 2006.

I would like to briefly talk about some of the other more traditional energy supply sources in addition to renewables that we try to promote and encourage in this legislation.

Natural gas is one of those in our Nation at a crossroads major policy decision with regard to energy security. U.S. natural gas demand is expected to increase from 23 trillion cubic feet per year. Demand is expected to be about 35 trillion cubic feet per year by 2020. Much of that demand is going to be driven by the use of natural gas for electricity generation because, as we build more powerplants to produce more electricity, virtually all of those new powerplants that are coming on line—not all, but many of those new powerplants that are coming on line—are expected to use natural gas.

As you can see from this chart, which goes from the period of 1970 through 2020, today there is more consumption of natural gas than there is production in the country. But it is not a very major gap. As we move forward for the next 20 years, that gap grows. Our consumption of natural gas is going to increase more quickly than the production of natural gas is expected to increase.

We tried to follow the developments in this field internationally to understand what is occurring. We have a very disturbing development of which I think the Senate needs to be aware and of which our entire country needs to be aware.

As a result of this gap that I have pointed out on this chart, as a nation we are at the risk of becoming dependent upon imported natural gas brought to our shores in tankers for a substantial portion of the gas that we consume.

The countries on which we would rely for much of that gas are prone to political instability. They are in the early stages of forming an OPEC-like organization for natural gas exporters.

There is a cover story in the June 2001 issue of OPEC's Bulletin that discusses Iran hosting an inaugural meeting of the Gas Exporting Counties Forum.

As a nation, we do not want to be in the position of having to deal with a cartel in natural gas in addition to the cartel we already deal with related to oil.

Our bill takes several steps to come up with a different policy for natural gas.

We increase funding for research to develop domestic natural gas deposits in deepwater areas in the Gulf of Mexico and in harder to tap geologic formulations on shore.

We provide research funds to explore the potential of methane hydrates that are trapped on the ocean floor at great depths.

The bill authorizes more funds to facilitate the permitting and leasing of Federal lands for natural gas production in places where that is environmentally acceptable.

The bill addresses a number of developing problems in natural gas production, such as conflicts over coal bed methane and hydraulic fractures and to bring these conflicts to resolution before they reach crisis proportions.

But even these steps, which I believe will be useful and important, will not be enough to close the gap that is reflected on this chart. The most significant step the bill tries to take for future natural gas supply is to provide enough financial incentives so that we see the construction of a pipeline to bring down from Alaska the vast reserves of natural gas that have been discovered and have already been developed in the Prudhoe Bay region.

The Presiding Officer and I had the opportunity to visit there earlier this year. The existing reserves are estimated to be over 30 trillion cubic feet of gas. It is estimated that the total natural gas resources on the North Slope of Alaska could be in the order of 100 trillion cubic feet. A natural gas pipeline from Alaska to the lower 48 States would provide at least 4 billion to 6 billion cubic feet of natural gas per day before the end of this decade.

Once the pipeline is constructed, it would provide gas to American consumers for at least 30 years. It would be a stabilizing force in natural gas prices as well.

The project makes a great deal of sense. But it has not happened because there is a lack of certainty about the investment risk of building such a major pipeline.

We are talking about an enormous undertaking. The pipeline would be one of the largest construction projects ever undertaken. It would create a massive number of jobs in Alaska, in Canada, and in the lower 48. The project would require the construction of the largest gas treatment plant in the world, and the laying of about 3,600 miles of pipe requiring 5 million to 6 million tons of steel.

The preliminary estimates are the cost would be in the range of $40 billion. But since natural gas prices vary from $2 to $10—which we have seen that just in the last 12 months—per mcf it is hard for the market to take on this challenge by itself. So we are proposing legislation that would expedite the process for permitting, for providing rights-of-way, and certifications that are needed for the U.S. segment of the pipeline.

The Government would step up and offer to underwrite loans for 80 percent of the cost of the line that is constructed within the United States.

There are various other provisions which we think would improve the likelihood that this pipeline would be built in the near future.

I believe it is important for the Senate to be proactive on this project—not simply to sit back, cross our fingers and hope that the various companies that are looking at this decide to go ahead.

If we do not act while there is substantial private sector interest in building this pipeline, we will lose an important opportunity to bolster our national energy security in natural gas.

As a consequence, we might well be hearing speeches 10 to 20 years from now about our dependence on foreign natural gas which would sound a lot like the speeches we have been hearing about our dependence on foreign oil.

Since I mentioned oil, let me say a few things about what we have in this bill related to oil, and the ways we are trying to increase domestic production of oil.

(Mr. DAYTON assumed the chair.)

Mr. BINGAMAN. When you hear all the rhetoric about drilling in the Arctic National Wildlife Refuge—and we have heard various speeches about that in this Chamber—one would think it is the only place in the United States where we could find more oil. That is far from true. There are 32 million acres of the outer continental shelf off the coast of Texas, Louisiana, and Mississippi that have already been leased by the Government to oil companies for exploration and production. They are shown on this map I show you by these yellow blocks.

There is no requirement that any legislation be passed in order for drilling to occur in these areas. These are areas that have been leased. They can be drilled. We need to do what we can to encourage the actual development of those leases.

In addition to the production off the Gulf of Mexico, there are outstanding prospects for increased production from the National Petroleum Reserve—Alaska.

Again, the Presiding Officer and I had the opportunity to see the promise that some of the oil companies obviously felt about the potential production there.

Under the Clinton administration, the previous administration, leasing was expanded in this area. Industry made some major finds. There is no law that needs to be passed in order for additional leasing to occur in that area. I, for one at least, believe that is an appropriate place for us to be pursuing additional oil production.

If the problem really is not finding areas to lease under current law, then why is there not more domestic production going on in the areas that are already leased for exploration and production? We need to look at that question. That is not a simple question to answer.

We need to look at the differences between our Federal and State royalty and tax policies and those of other countries with oil and gas resources. We have provisions in this bill to try to have that analysis done.

A second proposal to boost domestic production in the near future is to provide adequate funding for the Federal programs that actually issue new leases and new permits for oil and gas production. For all the rhetoric from the administration about the need to

boost domestic production, in its last budget request, the administration did not ask for adequate funding to do this work properly. The result of inadequate funding for U.S. land management agencies is delay and frustration on the part of U.S. oil and gas producers. This bill calls for increased budget levels for those functions. The Federal Government can then take the necessary steps to make oil and gas leasing faster and more predictable where it is already permitted.

The bill also contains increased research and development funding to support domestic oil and gas production by smaller companies and independent producers. These entities account for the majority of on-shore U.S. production of oil. They do not have the resources to do their own exploration and production research and development.

Let me say a few words about coal. This is an important contributor to our current energy supply picture.

Fifty-nine percent of our electricity generation nationwide is based on coal. This chart I show you is a good background chart for anyone interested in how we produce electricity in this country. You can see this top line is coal. That represents the 59 percent to which I just referred. Fifty-nine percent of our electricity generation is based on coal. We have tremendous coal resources. We have been called the ''Saudi Arabia of coal'' by some.

But coal's place in our energy future needs to be clean and needs to be emission-free. Coal-based generation, as we all know, produces more greenhouse gas emissions per Btu of energy output than does natural gas-fired generation that I was talking about a few minutes ago. Other pollutants from coal-fired plants have been the source of regional tensions between States where coal-fired plants are located and States that are downwind from those plants.

Coal is too important a resource to write off. Technology holds a promise for dramatically lowering, even to zero, the emissions from coal-based plants. This bill takes a very forward-looking approach to the issue by authorizing a $200 million per year research and development demonstration program based on coal gasification, carbon sequestration, and related ultraclean technologies for burning coal.

The proposal was a result of a strong bipartisan push in our committee by Senator EVAN BAYH and Senator CRAIG THOMAS and is one more example of the crucial role that research and development is going to play—and needs to play—in shaping our energy future.

Research and development are also keys to the future of nuclear power in this country. Nuclear reactors emit no greenhouse gases, so on that basis one would think they are an option that we should be looking at for the future. But nuclear plants have other characteristics that are not as attractive. They have very high up-front capital costs compared to other generating options. That puts them at a disadvantage in the marketplace. The nuclear waste problem is not yet solved. Nuclear safety is a continuing concern for many in the public. Our cadre of nuclear scientists and engineers is growing older and dwindling, and we are not seeing a large supply of students being trained to help us deal with nuclear issues in the future.

This bill takes on these problems by focusing on research and development on new nuclear plant designs that might address these problems and on a program to strengthen university departments of nuclear science and technology.

The bill also contains a partial reauthorization of the basic nuclear liability statute; that is, the Price-Anderson Act. The part that is in the bill deals with liability of Department of Energy nuclear contractors, including the National Laboratories that are a significant source of our national nuclear expertise. The other main part of the Price-Anderson Act, dealing with the commercial nuclear power industry, is being developed by the Committee on Environment and Public Works and is expected to be offered by them as an amendment when we get to the floor consideration of the bill.

Hydropower is another source of energy supply that this bill addresses related to electricity generation. Many hydroelectric facilities are reaching the age at which their original licenses under the Federal Power Act are about to expire. The process of relicensing these facilities needs to be protective of the environment, predictable for licensees, and efficient in the way it is administered.

We have been working for months with both the hydropower industry and the environmental groups to develop a consensus on how to achieve these goals. There is strong bipartisan interest in moving in that direction. We are committed to working toward this end. We have worked with Senator CRAIG extensively on this issue. We look forward to continuing that communication and hope that by the time this bill comes to debate on the floor we have a consensus on that issue.

A final way in which the bill focuses on increasing the supply of domestic energy is through a series of provisions facilitating the development of energy resources on Indian lands. Let me say that is an important new area we are trying to put some emphasis on in the bill.

The second of the major overarching goals that I mentioned at the beginning of my comments was this need to use energy supplies more efficiently and productively. So far, we have talked about how to increase supplies of energy through renewables, through oil, gas, coal, hydroelectric, and nuclear.

Let me refer now to parts of the bill that deal with this second overarching goal: how to use energy supplies more productively and efficiently.

As I have mentioned consistently throughout the past year, you cannot have a sound energy policy based only on production or only on conservation. We need to focus on both. Our energy policy needs to combine programs that boost supplies with programs that use those supplies more efficiently.

The first major way in which we can use our energy supply more efficiently is by having an electricity transmission system that is ready for the challenges of the next century. Electricity is essential to our modern way of life, yet our electric system largely operates on a design that is nearly a century old.

We have vulnerabilities in our current system. We just excerpted some of the headlines from national newspapers, and I have put those up here on a chart to remind people of what we were hearing in the news and on television earlier this year.

Let me just read a few of these: ''Electricity crisis: The Grinch that stole Christmas.'' That was last Christmas.

''Happy holidays. Now turn off that Christmas tree.'' That was last Christmas.

''California declares power emergency.'' ''Blackout threat remains as California scrambles.'' ''California power woes affect entire west coast.'' ''Energy chief moves to avert California blackouts.'' ''Utilities seek immediate rate hike to avoid bankruptcy.'' Those are the types of headlines we were seeing at the end of last year and early this year.

We need to address the issue of electricity generation and transmission. The central challenge we face with electricity is to have two elements: First, to have market institutions that ensure reliable and affordable supplies of electricity and, second, to have policies that favor future investments in new technologies that give consumers real choices over their energy use. We have provisions in this bill to do just that.

I could go through those provisions in detail. Since I notice there are others wishing to speak, I will skip over some of these and move on to the highlights of the rest of the bill.

A second way in which we need to increase efficiency in the various uses of energy is in the fuel efficiency of vehicles. The bill contains two provisions in that regard: One that mandates higher fuel efficiency in the vehicles purchased by the Federal Government for civilian use, and a second that provides a framework for the Department of Energy to assist States in expanding scrappage programs to get old fuel inefficient vehicles off the roads. This is cash for clunkers, as it has been referred to by some.

I know Alan Binder has spoken eloquently about how important he thinks it is that we pursue that course both for our energy future and as a way to get cash into the hands of people to stimulate the economy at this point.

Let me move to one other chart to make the point that we do need to deal

with this issue of transportation, if we are going to begin to deal with total oil demand in the country. This is a chart that shows U.S. oil consumption in millions of barrels per day. It goes from the year 1950 to the year 2020. This line, which is here at 2000, sort of shows where we are today. You can see that the total oil demand has been increasing and is expected to keep increasing. Total transportation demand has been increasing and is expected to keep increasing.

Domestic oil production has been declining since about 1970. That is not going to change. Domestic oil production is going to continue to decline.

We can affect it. Domestic oil production, if ANWR is opened, will be affected. It will increase it somewhat. That is reflected with this little red line. But when you look at what are the steps that can be taken that will have a major impact on this total oil demand, this top number, you can see that doing something about transportation demand is by far the largest action that we can take.

The Commerce Committee is having a hearing tomorrow on this very issue. They are intending to develop a proposal to bring to the Senate as an amendment to this bill to indicate a change in the requirements, the corporate average fuel efficiency requirements, the CAFE standards, fuel efficiency standards, and I look forward to seeing what they propose. I do believe it is important we take serious steps in this regard. The House-passed bill did not do that.

We as a Nation have to come to grips with this issue. The technology is there. This is not something we have to go out and speculate on as to whether the technology could be developed that will get us better fuel efficiency. We all know Senator BENNETT, our good friend from Utah, has a hybrid electric vehicle he parks right out here at the Senate steps. I complimented him on it. I asked him yesterday: What kind of fuel efficiency do you get on that car? He said: 53 miles per gallon in town. Now, that is a clear signal to me that the technology is there. We can produce more efficient vehicles. We should do that. We should provide incentives for people to use those.

There are other steps. The Federal Government can do a much better job of increasing efficiency in the energy it uses. We have included various provisions to encourage that. Industrial energy efficiency can be dramatically improved. We have various provisions to encourage that. Commercial and consumer products can be much more efficient than they are, and we have provisions in the bill to encourage that.

There is a new generation lighting initiative in this bill which I believe is a major step in the right direction. We are still using incandescent light bulbs, just as Thomas Edison taught us. There is no reason why we can't be using much more advanced technology which is much more efficient. About 25 percent of the power that goes into most lighting fixtures actually winds up being translated into light. The rest goes off in heat. We can do much better than that. This next generation lighting initiative we believe will help U.S. industry to meet that challenge and help our country to benefit from the development of those new technologies.

We also have a provision for substantially increasing the effort for energy efficiency assistance programs. This is the LIHEAP program, the Low-Income Home Energy Assistance Program. Many people depend upon that as we get into the winter months. You do not know it today by the temperature outside, but there are cold days coming. In the winter, this is an extremely important program. And also in the summer, when air conditioning is needed, this is an extremely important program for many of our citizens. We propose increases there.

A third and final overarching goal of the bill is to balance energy policy with other important societal considerations. Energy production and use comes associated with a host of consequences for the environment. We need to strike the right balance among energy, the environment, and the economy. That balance is what we are sent to Washington to try to find. This bill addresses the issues in a number of ways. Several provisions of the bill deal with the legacy of past problems posed by energy production and use for the environment.

We have major provisions to focus the attention of the country and the Government on dealing with the issue of global climate change, a proposal Senators BYRD and STEVENS made earlier this year that has been considered in the Governmental Affairs Committee, setting up an office to look at global climate change to come up with a policy and coordinate our governmental response to that issue. That is a proposal the bulk of which we have included in this legislation.

That is a very important part of the bill. I have said from the beginning of the discussion about an energy bill that we needed to have one that integrated energy policy with climate change policy, and we have tried very hard to do that.

We also have provisions in the bill to reconcile energy policy with the needs we have for security of our energy infrastructure. The events of September 11 have caused us to think about potential security vulnerabilities of the energy infrastructure. This is an area where there is a considerable amount of work that has been done, but more needs to be done. We have provisions to focus on the Strategic Petroleum Reserve, to direct the administration to fill the Strategic Petroleum Reserve. We also have provisions related to security of other parts of our energy infrastructure.

Let me say a couple of words about why we have not included a provision in this bill to open the Arctic National Wildlife Refuge to drilling. If you take all of the discussion about energy policy that has occurred in the Chamber over the last 10 or 11 months, you would think that this was the centerpiece, this is the main thing the country needs to be doing to solve its energy problems. I dissent from that view. I do not believe this is the centerpiece of our energy policy. This is a case of the tail wagging the dog.

I do believe that opening the wildlife refuge for drilling is not an essential or substantial part of solving our national energy needs in the future. As you can see from this chart, it does increase production domestically. It does not increase it to such an extent that our problems of growing dependence on foreign sources of oil are solved.

That debate is one that I am sure we will have, and we have had it already many times in the Senate Chamber. We will have an opportunity to have it again when this bill comes up, and each Senator has a strongly held view on the subject.

Let me put up one final chart and then I will conclude. Earlier this year, President Bush appointed a task force and asked Vice President CHENEY to head the task force and work up a so-called energy plan for the country, look at our long-term energy needs. Although that plan was severely criticized by some, I thought there were some constructive suggestions in it. I didn't agree with everything in it, but I thought there were constructive sections in it.

The administration recommended that the Congress act in 10 different policy areas. We have those on this chart. They range from electricity, to energy tax incentives, expedited Alaska gas pipeline construction, and on down through the list. The House-passed legislation, H.R. 4, which has been proposed here at various times on the Senate floor, addresses 5 of the 10 key areas that the administration proposed that we address.

The legislation we are introducing today addresses 9 of the 10 key issue areas. I am not saying the administration embraces every aspect of what we proposed in each of these nine areas, but in many respects we do believe we are making recommendations that are consistent with that energy plan that was earlier issued by the administration. We believe these issues should not be partisan. We believe there is a great deal of common ground that we can find on energy issues. I look forward to working with my colleagues on the Democratic side and the Republican side in identifying ways this bill can be improved, if there are suggestions out there. The bill is there for anyone to study and to suggest improvements. I think, in many ways, having it available for that kind of scrutiny over the next weeks, until we get into the new session after the first of the year, will be very good and will help us produce a better product for the American people.